A NEW FORM OF PAPILIO FOR AUSTRALIA.

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It is but seldom that an entomologist has the pleasure of recording a new butterfly of large size from Australia, especially a new form of Papilio. It has long been known that *Papilio ormenus*, Guérin, of New Guinea, is a polymorphic species. In addition to the typical male and typical female, no fewer than two other forms of male and three other forms of female have received distinctive names. For several years I have suspected a similar condition of things in the case of *Papilio ægeus*, Don. (so long known in Australia as *P. erectheus*, Don.) though probably in a lesser degree. I have now the satisfaction of describing a second and very distinct form of the female of *Papilio ægeus*, from the extreme north of Queensland. This new capture corresponds to the female form *amanga* of *Papilio ormenus*.

For this important and highly interesting form I propose, in honour of my wife, the name of

Papilio beatrix.

Female.—Length of costa of fore-wing, 70 mm.

Above.—Fore-wing creamy-white, with veins and interneural streaks marked with dark-brown; costa towards the base very dark-brown, that colour extending into the upper part of basal end of cell; a dark spot at upper distal end of cell; apical area broadly brown, extending as a sinuous brown band along the termen: on termen between the veins, a row of pale yellowish semicircular spots, diminishing in size towards the apex, and a double spot between veins 1 and 2. Hind-wing.—Base and central area white, extending as an obscure pale band above vein 7; costal area brown; termen broadly darker brown, marked with two series of pale spots; the first pale yellowish, semicircular, interneural on the termen; the second subterminal, consisting of a large yellow anal spot, three paler yellow elongate spots barely separated by veins 3 and 4, one spot (joined to the white central area), upper half orange, lower half white, between veins 5 and 6, an orange spot between veins 6 and 7, and another between veins 7 and 8; the large dark areas above spots between veins 2 and 3 and 3 and 4 sprinkled with blue scales.

Below.—Fore-wing whiter than above, the dark apical area less extensive; basal third of wing dark brown. Hind-wing as above, except that the white area extends as a broad white band between veins 7 and 8; the costal area is darker, the upper two spots of the subterminal band are darker, the third spot is not connected with the white central area, and there is a complete discal series of blue scalings.

Thorax brown; abdomen above buff, below dark brown, with a central paler line.

The type specimen in my collection was captured on Cape York by Mr. H. Elgner during February of this year; both in size and shape it is similar to the ordinary female form of *Papilio ægeus*, Don. A second specimen from the same locality during the same month is much darker above; the terminal interneural spots of both wings are much smaller; the subterminal series of spots of hind-wing is represented by deep orange spots between veins 7 and 8 and 6 and 7, with a faint orange splash below vein 6, and an orange anal spot, thus leaving the outer third of wing almost wholly dark-brown. Below, this specimen is much as in the type, but the subterminal spots of hind-wing are deeper in colour, and do not approach each other so closely. A second example of this beautiful form (Prince of Wales Island, June, 1908) is in the collection of Mr. G. Lyell. A third specimen (Prince of Wales Island, June), in my own collection, has a distinct series of pale lunules on the hind-wing both above and below, and the extension of the white central area below between veins 7 and 8 is much narrower.

So far I have knowledge of but six specimens of this form. Three of these, as mentioned above, are in my own collection; two others, from Prince of Wales Island, are in the collection of Mr. G. Lyell. The sixth specimen is in the Miskin collection of the Queensland Museum, and is one of the two specimens (the other I am unable to trace) recorded by Miskin in his catalogue as *P. ormenus*. By the courtesy of the trustees and the Acting-Director of the Museum I have been enabled to examine this specimen in Sydney, and I find that the white area of the hind-wing below is extended to the costa.

The distinctive point that at once separates this form from the corresponding *P. ormenus* form, *amanga*, is the presence of the white bar joining the central area and the costa, as in the normal form of female *P. ægeus*.

Miskin's error in recording his specimens under the name of *P. ormenus*, Guérin, does not remove the latter species from our Australian lists. I have examples of *P. ormenus* from Darnley Island and from Murray Island (both within Australian territorial limits). I have examined a number of specimens from these islands, and in addition to the typical form of male and the typical form of female (the so-called "aberration" *polydorinus*), I have in my collection a single male form *pandion*, several of the female form *amanga*, including one all pure white above, and a single female very close to the form *inornatus*.

In his "Revision of the Eastern Papilios" (1895, p. 305), Rothschild remarks that *Papilio ormenus*, from the Woodlark Islands, may be different from *P. ormenus*, Guérin, from New Guinea. I have lately examined two small series from the Woodlark Islands, and the following notes should therefore be of

interest. The first collection comprises three males and five females. The males hardly differ from some New Guinea males, on the under side of the hind-wing they have scarcely any markings, except the orange anal spot. Four of the females belong to the white *amanga* form ; they are variable in their markings, and, on the whole, of a purer white than any I have from New Guinea. The remaining female (Rothschild's so-called "typical" female) is marked somewhat as in the male, but has a complete series of subterminal spots on the hind-wing above and below, and the smaller white central area of hind-wing is represented below. The second collection contains seven males and five females. The males are very similar to those of the first collection except one specimen, which has the whitish discal scales of hind-wing below better developed. Four of the females are white *amanga* forms, very variable as usual, with the light area of the fore-wings in three of the specimens very much reduced. The fifth specimen is also of the so-called "typical" form, and only differs from the single specimen of this form in first collection in having the white central area of hind-wing larger.

The absence of the *polydorinus* form of female, and the predominance of the white *amanga* form of female, should be noted. It is probable that the white *amanga* form is much commoner on the islands surrounding New Guinea than upon the mainland itself.

We have received the first number of *The Microscope*, a monthly journal edited and published by Messrs. H. and F. Baker, 78 Swanston-street, Melbourne. It is brightly written, and will, no doubt, assist in the advancement of microscopical science. The subscription rate is 3s. 6d. per annum, post free.

Frogs.—Among my exhibits at the recent conversazione were two frogs (Crinia?) which lay their eggs away from water; also a number of tadpoles hatched from eggs laid away from water. Some of the eggs were merely kept moist, and the tadpoles emerged in about forty-eight hours, but from a number of the eggs which were dropped into an aquarium on 1st June last the tadpoles did not emerge till 29th July and later. Why should there be so great a difference between the hatching in air and in water?—H. W. Wilson.

Entomological. — The valuable collection of Australian Coleoptera formed by Mr. C. French, F.L.S., Government Entomologist, as the result of many years' study, and which contains a number of type specimens, has been purchased for the National Museum, Melbourne. With this addition the Museum will now possess the most complete series of Australian beetles in the world.